15. (New) DIP medium for the recording layer according to claim 4, wherein the cellulose ethers are selected from the group consisting of methyl cellulose, ethyl cellulose, butyl cellulose, vinyl resins, including polyvinyl acetate, polyvinyl butyral, polyvinyl acetyl, polyvinyl alcohol, and polyvinyl pyrrolidone.

16. (New) DIP medium for the recording layer according to claim 4, wherein the acrylic resins are selected from the group consisting of polymethylmethacrylate, polybutyl acrylate, polymethacrylic acid, polyacryl amide, and polyacrylonitrile.

REMARKS

The Office Action mailed January 10, 2002, has been carefully considered. The present amendment is intended to be a complete response thereto and to place the case in condition for allowance.

Claims 1-16 are pending. Claims 3-4 and 7 have been amended to over come rejections under 35 U.S.C. 112, second paragraph. Claims 13-16 have been added.

THE CLAIMS ARE NOT INDEFINITE

Claims 3-4 and 7 stand rejected under 35 U.S.C. § 112, second paragraph, for being indefinite.

The Examiner alleges that claim 3 is indefinite for reciting "and its derivatives". The phrase "and its derivatives" has been deleted from claim 3.

The Examiner alleges that claims 3-4 are indefinite for containing a genus following by members of the genus after the phrase "such as" or "including". The phase "such as" or "including" and the following members of the genus have been deleted from the claims.

The Examiner alleges that claim 7 is indefinite for reciting the unknown unit "mkm". "mkm" has been amended to - - micron - -. "mkm" is the Russian abbreviation for micron.

THE CLAIMS ARE NOT ANTICIPATED

Claims 8 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Santo (U.S. Patent No. 5,185,233). Claims 1, 3-4, 7, 11 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Shiga et al. (JP-54-061541). Claim 8 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Sasaoka (JP-59-092448). Claims 8 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Santo (JP-62-239436). Claims 1, 4, 7, 11, and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Seava et al. (U.S. Patent No. 5,470,994) in view of Crivello et al. (Triarylsulfonium salts as photoinitiators of free radical and cationic polymerization, *J. Polymer Sci.: Polymer Letters Edition*, Vol. 17, pp. 759-764, (1979)).

To anticipate a claim, the reference must teach every element of the claim. See MPEP § 2131. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The cited references fail to teach every element of the claims because the reference fails to disclose a fluorescent dye as required by independent claims 1, 7, and 8-10. The dyes of the

references are organic dyes that do not fluoresce. Fluorescent dye differs from non-fluorescent dye in that the fluorescent dye emits electromagnetic radiation, especially visible light, due to stimulation by an incident radiation. On the other hand, the non-fluorescent dye merely absorbs and/or reflects light. The fluorescent dye actually modifies the light incident upon it and emits light at a different wavelength than the incident light, while the non-fluorescent dye merely absorbs and/or reflects the incident light where the wavelengths absorbed and reflected are the same as that incident upon the dye.

The disclosure of Santo ('233) actually discloses that the dye is a non-fluorescent by referring to light reflectance (see column 4, lines 36-44, especially line 40). Measuring light reflectance would have no meaning for Applicant's invention because the light would have been absorbed, transformed, and emitted a different wavelength. Therefore, because Santo ('233) fails to disclose a fluorescent dye, the reference cannot anticipate the claims under 35 U.S.C. § 102(b).

Shiga et al. disclose merocyanine dye which is not a fluorescent dye. The merocyanine dye discolors upon selective heating. The discoloring is used to record data. The discoloration changes the absorption and reflecting light of the dye. Therefore, because Shiga et al. fail to disclose a fluorescent dye, the reference cannot anticipate the claims under 35 U.S.C. § 102(b).

Sasaoka discloses napthol green B which is not a fluorescent dye. The dye of Sasaoka merely absorbs light to generate heat which decomposes the dye to form pits. The dye of Sasaoka does not transform an incident light and does not emit light (or other electromagnetic radiation). Therefore, because Sasaoka fails to disclose a fluorescent dye, the reference cannot anticipate the claims under 35 U.S.C. § 102(b).

Santo (JP) discloses non-fluorescent dyes, similar to Santo ('233) described above. The only purpose of the dyes of Santo (JP) is to absorb light, thus, a fluorescent dye is not required. Therefore, because Santo (JP) fails to disclose a fluorescent dye, the reference cannot anticipate the claims under 35 U.S.C. § 102(b).

Saeva et al. disclose 2,3-diphenyl-7-(2-(9-julolidinyl)ethenyl)-1-oxo-1H-indolizinium trifluoromethanesulfonate as a dye. Although the dye of Saeva et al. absorbs infrared radiation, it does not fluoresce. There is no other disclosure of a fluorescent dye by Saeva et al. Further, Crivello et al. does not cure this deficiency. Therefore, because Saeva et al. fail to disclose a fluorescent dye, the reference cannot anticipate the claims under 35 U.S.C. § 102(b).

For the reasons noted, each of the references fails to disclose every element of the claimed invention. Accordingly, the rejections under 35 U.S.C. § 102(b) are improper and should be withdrawn.

THE CLAIMS ARE NOT OBVIOUS

Claims 1-4, 7-9, and 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Santo (U.S. Patent No. 5,185,233). Claims 1-9 and 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Santo et al. in view of Namba et al. (U.S. Patent No. 5,506,357). Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Santo et al. in view of Namba et al. combined with Glushko et al. (U.S. Patent No. 6,009,065) and Russell et al. (U.S. Patent No. 4,090,031). Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Santo et al. in view of Namba et al. combined with Hashida et al. (JP 02-076126) and Russell et al.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP 2143.

The references, taken individually or together, fail to teach or suggest all the claim limitations. The deficiency of the Santo ('233) reference is discussed above. In the rejection, the Examiner fails to offer any motivation why it would have been obvious to use a fluorescent dye. Further, by teaching only non-fluorescent dye and measuring light reflectance, Santo ('233) actually teaches away from the present invention. The Examiner relies on Namba et al. to show the use of dye mixtures; Glushko et al. to show multilayered recording media; Russell to show the use of UV, visible, and IR light; and Hashida et al. to show the detection of plural fluorescent recording layers. However, because Santo ('233) is deficient in disclosing the combination of elements of the independent claims, this deficiency is not satisfied by any combination of Namba et al., Glushko et al., Russell, and Hashida et al. Therefore, the references do not render the claims obvious under the meaning of 35 U.S.C. § 103. Accordingly, the rejections are improper and should be withdrawn.

CONCLUSION

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made**."

Applicant has responded to the Office action mailed February 15, 2002. All pending claims are now believed to be allowable and favorable action is respectfully requested.

In the event that there are any questions relating to this Amendment or to the application in general, it would be appreciated if the examiner would telephone the undersigned attorney concerning such questions so that the prosecution of this application may be expedited.

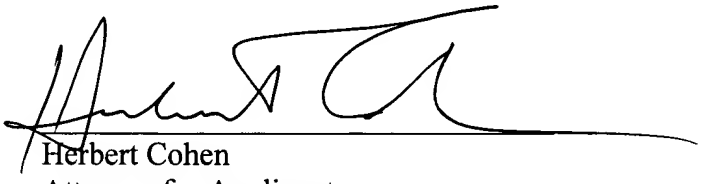
Please charge any shortage or credit any overpayment of fees to BLANK ROME COMISKY & McCAULEY LLP, Deposit Account No. 23-2185 (109289-00164). In the event that a petition for an extension of time is required to be submitted herewith and in the event that a separate petition does not accompany this response, applicant hereby petitions under 37 C.F.R. 1.136(a) for an extension of time for as many months as are required to render this submission timely.

Any fees due are authorized above.

Respectfully submitted,

ALPEROVICH et al.

Date: 7/23/02

By: 

Herbert Cohen
Attorney for Applicants
Registration No. 25,109

BLANK ROME COMISKY & McCAULEY LLP
900 17th Street, NW, Suite 1000
Washington, DC 20006
Telephone: 202-530-7400
Facsimile: 202-463-6915

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Please amend the specification as follows:

On page 6, please replace the last paragraph starting on line 30 with the following:

- - The content of fluorescent dye in the layer is equal to [0,1] 0.1-10%. - -

On page 7, please replace the second paragraph starting on line 9 with the following:

- - The content of compound, capable to generate free radicals, in the recording layer 10 is equal to [0,1] 0.1-20%. - -

On page 8, please replace the fourth paragraph staring on line 13 with the following:

- - To create a recording layer of the present Invention, the above-mentioned ingredients are dissolved in organic solvent or introduced in it as microcapsules less than [0,2 mkm] 0.2 micron in size, prepared by known methods, with future covering the substrate with this compound by spin coating, roller coating or dip coating. - -

On page 11, please replace the third paragraph staring on line 6 with the following:

- - To obtain the recording layer medium we prepared the methylene chloride solution, containing as film-forming resin - 1% polymethylmethacrylate (PMMA), as fluorescent dye – [0,013%] 0.013% Oxazine 625 Perchlorate with λmax. abc. = 645 nm and λmax. fluor. = 680 nm (Exciton, Inc.) and as a compound generating free radicals – [0,03%] 0.03% benzyl peroxide. The compound solvent was filtered, deposited on a glass disc and dried to form a recording layer with 500 nm thickness. - -

On page 11, please replace the fourth paragraph staring on line 15 with the following:

- - To obtain the recording layer medium we prepared the methylene chloride solution, containing as film-forming resin - 1 % polymethylmethacrylate (PMMA), as fluorescent dye –

[0,01%] 0.01% HIDC Iodide with λmax. abc. = 641 nm and λmax. fluor. = 680 nm (Exciton, Inc.) and as a compound generating free radicals – [0,03%] 0.03% benzyl peroxide. The compound solvent was filtered, deposited on a glass disc and dried to form a recording layer with 500 nm thickness. - -

On page 11, please replace the seventh paragraph staring on line 24 with the following:

- - To obtain the recording layer medium we prepared the methylene chloride solution, containing 1% polymethylmethacrylate (PMMA), as fluorescent dye – [0,009%] 0.009% HITC Iodide with λmax. abc. = 751 nm and λmax. fluor. = 790 nm (Exciton, Inc.) and as a compound generating free radicals – [0,002%] 0.002% benzyl peroxide. The compound solvent was filtered, deposited on a glass disc and dried to form a recording layer with 500 nm thickness. - -

On page 12, please replace the second paragraph staring on line 3 with the following:

- - To obtain the recording layer medium the [polyvynilacetate] polyvinylacetate (1%), Oxazine 725 Perchlorate ([0,013%] 0.013%), plasticizer - dioctyl phthalate ([0,2%] 0.2%) and benzyl peroxide ([0,03%] 0.03%) were dissolved in a mixture of ethanol, ethyl cellosolve, iso-propanol, and iso-butanol (4:2:1:1). The compound solvent was filtered, deposited on a glass disc and dried to form a recording layer with 500 nm thickness. - -

On page 12, please replace the fourth paragraph staring on line 11 with the following:

- - To obtain the recording layer medium the [polyvynilacetate] polyvinylacetate (1%), HIDC Iodide (Exciton, Inc.) ([0,01%] 0.01%), dioctyl phthalate ([0,2%] 0.2%) and benzyl peroxide ([0,003%] 0.003%) were dissolved in a mixture of ethanol, ethyl cellosolve, iso-propanol, and iso-butanol (4:2:1:1). The compound solvent was filtered, deposited on a glass disc and dried to form a recording layer with 500 nm thickness. - -

On page 12, please replace the sixth paragraph staring on line 19 with the following:

- - To obtain the recording layer medium the [polyvynilacetate] polyvinylacetate (1 %), HITC Iodide (Exciton, Inc.) ([0,009%] 0.009%), dioctyl phthalate ([0,2%] 0.2%) and benzyl peroxide ([0,002%] 0.002%) were dissolved in a mixture of ethanol, ethyl cellosolve, iso-propanol, and iso-butanol (4:2:1:1). The compound solvent was filtered, deposited on a glass disc and dried to form a recording layer with 500 nm thickness. - -

On page 12, please replace the eighth paragraph staring on line 27 with the following:

- - The same as in examples 1-6, only benzyl peroxide was not dissolved in the compound for the recording layer, but was introduce in it as microcapsules with average diameter [0,1 mkm] 0.1 micron. - -

IN THE CLAIMS

Please amend the claims as follows:

3. (Twice amended) DIP medium for the recording layer according to claim 1, wherein said compound generating free radicals is chosen from azo-bisisobutyronitrile, p-bromobenzene diazohydroxide, triphenylmethylazibenzene [and], diazobenzoyl, nitrosoacetanilide [and its derivatives;], and peroxides [such as benzyl peroxide and its derivatives; tert-dibutyl peroxide].

4. (Twice amended) DIP medium for the recording layer according to claim 1, wherein said film-making polymer is chosen from the group of resins consisting of cellulose esters, [including nitrocellulose, cellulose acetate, cellulose acetate butyrate;] cellulose ethers, [including methyl cellulose, ethyl cellulose, butyl cellulose, vinyl resins, including polyvinyl acetate, polyvinyl butyral, polyvinyl acetyl, polyvinyl alcohol and polyvinyl pyrrolidone;] and acrylic resins[, including polymethylmethacrylate, polybutyl acrylate, polymethacrylic acid, polyacryl amide polyacrylonitrile].

7. (Amended) Method of obtaining a single-layer optical WORM disc, comprising the steps of dissolving the fluorescent dye, compound and film-forming polymer according to claim 1 in an organic solvent[,] chosen from the group consisting of alcohols, ketones, amides, sulfoxides, ethers, esters, halogenated aliphatic hydrocarbons [or] and aromatic solvents to form a composition, or [to introduce] introducing the fluorescent dye, compound and film-forming polymer according to claim 1 into the solvent as microcapsules less than 0.2 [mkm] micron in size[, with a step of] to form a composition; and covering said composition by spin coating, roller coating or dip coating on a substrate[, representing a] selected from the group consisting of glass, polymethylmethacrylate, polycarbonate [or], and polyethylene terephthalate disc.

Please add the following new claims:

13. (New) DIP medium for the recording layer according to claim 3, wherein the peroxides are selected from the group consisting of benzyl peroxide and tert-dibutyl peroxide.

14. (New) DIP medium for the recording layer according to claim 4, wherein the cellulose esters are selected from the group consisting of nitrocellulose, cellulose acetate, and cellulose acetate butyrate.

15. (New) DIP medium for the recording layer according to claim 4, wherein the cellulose ethers are selected from the group consisting of methyl cellulose, ethyl cellulose, butyl cellulose, vinyl resins, including polyvinyl acetate, polyvinyl butyral, polyvinyl acetyl, polyvinyl alcohol, and polyvinyl pyrrolidone.

16. (New) DIP medium for the recording layer according to claim 4, wherein the acrylic resins are selected from the group consisting of polymethylmethacrylate, polybutyl acrylate, polymethacrylic acid, polyacryl amide, and polyacrylonitrile].